

## Model Change Bulletin

MCB#2

01/26/2007

MOL.20070622.0002

AERMOD (dated 07026)

QA:N/A

This Model Change Bulletin documents changes made to the AERMOD Dispersion Model. A brief description of the changes is provided below. Additional details are also available in the Fortran source code. There are no changes to the user instructions for AERMOD associated with this update.

This revised version of AERMOD (dated 07026) includes the following modifications relative to the previous version (dated 06341):

## Bug Fixes:

1. Corrected array indexing problem for POINT, POINTCAP, and POINTHOR sources in subroutine SOPARM that could result in incorrect processing of SRCPARAM data for some sources and/or incorrect issuance of fatal runtime errors for number of parameters specified (error code 'E201').
2. Modified subroutine SRCQA to include QA checks on the number of emission factors input for MHRDOW and MHRDOW7 options.
3. Modified subroutines SRCSIZ and PRESOINC to correct potential problem with assignment of array size for MHRDOW option.
4. Modified subroutine SRCQA to use DOUBLE PRECISION in the calculation of area and centroid coordinates for AREAPOLY sources. This change avoids problems encountered with the Compaq Visual Fortran compiler producing erroneous results for some compiler options.
5. Modified subroutine MEREDAT to assign non-array logical variables STABLE and UNSTAB for use in subroutine COMPTG for EVENT processing mode.
6. Modified subroutines PCALC, VCALC, ACALC and OCALC to include calls to subroutine HEFF prior to calculation of zsubp for deposition applications.
7. Modified subroutine HRQEXT to correct processing of point sources under the HOUREMIS option to assign the hourly emission rate, exit velocity, and exit temperature to 0.0 if any of these parameters are missing, in conformance with Section 3.3.9 of the AERMOD User's Guide.
8. Modified subroutine VDP to prevent potential zero-divide condition for cases with zero specific humidity deficit.
9. Modified subroutines VARINI and RESINI to check for allocation status of allocatable arrays during array initializations.

## Miscellaneous:

1. Included additional error-checking for the non-DEFAULT, BETA-test PSDCREDIT option.

2. Modified subroutine PRTSRC to correct format for printing QFLAG from A6 to A7 to accommodate SHRDOW7 and MHRDOW7, and other minor adjustments to formatting.
3. Modified code to read the header record of the surface file in subroutines MEOPEN, METEXT, and MEREAD to include a separate test on the AERMET version date field under the SCREEN option, to allow for the future use of screening meteorology that is not directly linked to a specific version of the AERMET processor. Also modified subroutine METDAT to include meteorological data version date in the summary of met data inputs.

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\*    IMPORTANT    \*  
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This program will henceforth be identified by its name and a Julian date, i.e.: AERMOD (dated 07026). Future changes to this model will be identified by an updated Julian date found at the beginning of the model source code and followed by a reference to a SCRAM Model Change Bulletin (MCB#n) which will explain the nature and content of the changes. All Model Change Bulletins for this program will always be available for back reference on this website. In the future, notification of changes (MCBs) to this program will be made in the SCRAM ALERTS section of this website.